

REMARKS

Claim 1-26 are pending.

Claims 20-26 withdrawn from consideration.

Claims 1-19 are rejected.

The office action dated 5 Sept. 2008 indicates that claims 1-19 are rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. The office action alleges there is no support in the originally filed specification for feature “after partially curing the prepreg material, providing an elastomeric caul....” The office action indicates that paragraph 16 of the application’s PGPub only describes an uncured prepreg that is covered by an elastomeric cau.

On 4 December 2008, Examiner Monica Huson and applicants’ attorney Hugh Gortler held a telephonic interview to discuss the ‘112 rejection. Applicants’ attorney indicated that support for feature at issue is provided in paragraph 25 of the PGPub, which states “an uncured or partially-cured composite component 202 is positioned on an elongated lay-up mandrel 204 having a base 206, and a release film 208 is positioned over the composite component 202 (FIG. 5). An elastomeric cau 210 is positioned over the release film 208.” Paragraph 25 clearly provides support for covering a partially cured composite material (i.e., partially-cured composite component) with an elastomeric cau. Therefore, the ‘112 rejection of claims 12-19 should be withdrawn.

During the telephonic interview, new claim 27 was proposed as a replacement for claim 1. New claim 27 does not recite partially curing a composite material. New claim 27 recites a combination of a vacuum bag and an elastomeric cau that is stretched over a prepreg to reduce fiber deformation and wrinkles.

Applicants’ attorney indicated that the previously-cited documents do not teach or suggest a vacuum bag in combination with such a cau. Examiner Huson did not indicate whether such subject matter was allowable, but she did suggest that claim 27

should positively recite the stretching of the caul, and that this response should identify portions of the specification that provide support for the stretching.

Examiner Huson is thanked for her comments and suggestions during the interview. She is also thanked for granting the interview on short notice.

New claim 27 recites a method of curing a prepreg on a mandrel. The method comprises:

providing an elastomeric caul over the prepreg;
providing a vacuum bag over the prepreg and the caul, with the caul between the prepreg and a film of the vacuum bag; and
stretching the elastomeric caul over the prepreg while drawing down the vacuum bag over the caul, the caul being stretched to fit snuggly over the prepreg to reduce fiber deformation and wrinkling during curing.

Support for the stretching is provided in page 5, lines 24-29 of the application, which states that a vacuum draws in a vacuum bagging film 124 and elastomeric caul 110, whereby the elastomeric caul is stretched. Page 6, lines 21-25 states that this stretching reduces or eliminates fiber deformation and wrinkling.

No new documents have been cited in the latest office action. Two documents cited in the previous office action (Yoshino and Irvine), do not teach or suggest the combination of a caul and a vacuum bag. Yoshino discloses a combination of a vacuum bag 11 (col. 2, lines 7+) and porous “breather/bleeders” (col. 2, lines 18+). The breathers/bleeders are described as perforated sheets 15 and 22 of woven cloth made of polyethylene terephthalate or poly tetrafluoroethylene” (Mylar or Teflon). These breathers/bleeders do not stretch, and they not do they reduce fiber deformation and wrinkling.

Irvine does not disclose a vacuum bag, let alone a vacuum bag in combination with an elastomeric caul. Irvine discloses a rubber diaphragm 38 for sealing a pressure chamber 30 in a conventional press (col. 2, lines 65+). The diaphragm is not stretched to reduce fiber deformation and wrinkling.

Mead, which was also cited in the previous office action, discloses the combination of a vacuum bag 180 (col. 8, lines 42+) and a caul at edges 50 of a hat mold surface 40 (col. 4, lines 53+). The caul functions as an edge dam 130, which is used to reduce resin leakage and control part edge surface quality and location so the composite part does not have to be trimmed. The caul does not stretch across the prepreg, nor does it reduce fiber deformation and wrinkling.

Thus, the combination of Yoshino, Mead and Irvine does not teach or suggest the method of new claim 27. Therefore, new claim 27 and its dependent claims should be allowed over these documents.

Claim 2, 4-7 and 9-11 have been amended to depend properly from new claim 27. Claims 1 and 3 have been cancelled.

The Abstract has been amended to track the scope of new claim 27. No new subject matter has been added to the Abstract.

The Examiner is encouraged to contact the undersigned to discuss any remaining issues prior to mailing another office action.

Respectfully submitted,

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